Support and Mentorship of Diverse and Disadvantaged Nursing Students

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Abstract

Diverse populations of people are underrepresented in healthcare education and workforces, including the nursing workforce. To increase the number of diverse nurses, it is crucial to increase and retain diverse nursing students. Diverse nursing students are more likely to work in and impact underrepresented communities after graduation, in practice and policy. Nursing programs need to be aware that diverse and disadvantaged nursing students have unique educational barriers and challenges, such as social isolation, lack of diverse role models, and lack of faculty support. This independent project investigated the literature through CINAHL, PubMed, and Cochrane databases to examine support and mentorship interventions that encouraged the recruitment and retention of diverse and disadvantaged nursing students. Key terms searched included “mentor”, “diverse student”, and “disadvantaged student”. Only studies published within the last five years and conducted in the United States were retained for this independent project. Fourteen articles were critically analyzed for evidence to fit this project. Five themes were identified in the literature: (a) issues of race in nursing education; (b) broad assessment of support services for diverse and disadvantaged nursing students; (c) examination of successful recruitment and retention models; (d) diversity and at-risk support programs; and (e) mentorship. Support interventions and mentorship were found to increase diverse and disadvantaged student success. Support measures included tutoring, counseling, psychosocial supports, and scholarships. Mentoring relationships included peer, faculty, life coach, and community supports. This independent study identified that more research needs to be conducted to identify best practice in the support and mentorship of diverse and disadvantaged students.
Support and Mentorship of Diverse and Disadvantaged Nursing Students

Today, the United States has three million nurses. However, by 2022, over one million additional nurses will be needed to join the nursing profession (ANA, 2018). Despite this, nurses are the largest population of healthcare providers (Brooks-Carthon, Nguyen, Chittams, Park, & Guevara, 2014). The Institute of Medicine (IOM) (2003), identified that nursing shortages are a fundamental factor that decreases patient safety. Having sufficient numbers of nurses is critical, but having a diversified nursing workforce is another crucial factor that adds to the complexity of health inequity. The diversity of healthcare providers, including nursing, medicine, and dental, does not accurately reflect the general population and is in fact considered disproportionately lower (Brooks-Carthon et al., 2014; U.S. Department of Health and Human Services, 2017). Underrepresented populations include ethnically diverse populations but also include male nurses and those in rural areas.

In a literature review, the U.S. Department of Health and Human Services (2017) found that 13% of the United States population is African American; however, only four percent of physicians are African American. They reported similar patterns were reflected in dental schools for African American, Native American, and Hispanic populations. The National Council of State Boards of Nursing (NCSBN) (2015) reported that the general diverse population is almost 40 percent; whereas, the diverse population in health occupations is 21.4 percent. In a national nurse survey, NCSBN (2016) found that while still disproportionately low, the diversity in nursing is increasing. Specifically, underrepresented populations, including male nurses, are better represented in the younger cohort and for licensed vocational/practical nurses (LVN/LPN) versus registered nurses (RN).
While statistics are an important aspect to consider, there are other important pieces to the issue of diversity in nursing students. For example, patient safety is at-risk when healthcare providers lack knowledge and understanding of the diverse populations of people they are working with (IOM, 2003; Muronda, 2016). Healthcare providers deliver safer care when care is culturally aware and congruent (IOM, 2003; Metcalfe & Neubrander, 2016). Condon, Morgan, Miller, Mamier, Zimmerman, & Mazhar (2013) found that diverse healthcare providers were more likely to unbiasedly assist medically underserved communities. The American Association of Colleges of Nursing (n.d.) found that the most healthcare providers from underrepresented groups provide care for people of similar backgrounds. Not only that, but patients have higher satisfaction with their care and are more likely to access and follow treatment recommendations (Brooks-Carthon et al, 2014; Loftin, Newman, Gilden, Bond, & Dumas, 2013).

Cultural competency does not only affect patient care but also policy and education. Muronda (2016) found that healthcare providers from underrepresented populations are likely to assist in developing the most effective healthcare policies for their communities. It is vital that we have a plan to increase the nursing workforce in numbers, but also in diversity and the effort must begin with nursing education. Nurse educators have an important role in educating the next generation of nurses and have the potential to influence the nursing workforce. Diverse and disadvantaged nursing students have unique barriers to completing their degree such as social isolation, lack of diverse role models, and lack of faculty support. These documented barriers decrease the retention and graduation rates of the diverse nursing student population (Metcalf & Neubrander, 2016; Muronda, 2016). Diverse nursing faculty could assist with the creation of nursing curriculum with a unique point of view that strengthens culturally competent care (Beard & Julion, 2016). The next section examines the purpose and goal of this independent project.
Significance & Purpose

Diverse and disadvantaged nursing students are underrepresented in the nursing profession. Diverse and disadvantaged nursing students may be more vulnerable to obstacles inherent in nursing education. Barriers may be intentional, unintentional, and vary from situation to situation. Barriers that diverse students may face include racism, marginalization, microaggressions, poor self-awareness, academic under preparation in math and sciences, English as a second language, lack of resources, admission competitiveness, and lack of faculty and family support, (Beard & Julion, 2016; Brooks-Carthon et al., 2014; Brooks-Carthon et al., 2015; Condon et al., 2013; Corrigan-Magaldi, Colalillo, & Molloy, 2014). Another pertinent barrier is the lack of diversity in nursing faculty (Beard & Julion, 2016).

Beard & Julion (2016) found that only seven percent of nursing faculty were African American. A lack of diverse faculty can impede students and would-be faculty who are looking for role models who look like them, come from similar places, and have similar life experiences (Beard & Julion, 2016). The American Colleges of Nursing (AACN) (2017) found that there is an immense need to recruit diverse nursing students, but recruitment cannot end there. Faculty from diverse populations must also be recruited into nursing academia. In 2016, the national statistics for diversity in nursing education revealed that 15.9% of nursing faculty and 29.5% of nursing students were diverse (AACN, 2017). Male faculty are still underrepresented but increasing in numbers and make-up seven percent of the U.S. faculty (AACN, 2017). Recruitment and retention are a challenge. Beard & Julion (2016), described the additional barriers to the recruitment and retention of diverse faculty including role strain, pay inequalities, and disinterest in the role of nursing educator.
The relevance of the lack of diversity in nursing education is essential to consider when trying to recruit students and faculty from diverse backgrounds because learning is directly influenced by people within education (Bandura, 1977). Cultures and ethnicity of those who participate in learning activities can have a direct effect on the knowledge acquisition of others because learning includes observation, imitation, and modeling of desired behaviors (Bandura, 1977; Bandura, 1986).

The purpose of this independent project was to determine current literature and evidence regarding support and mentorship of diverse and disadvantaged nursing students and the effectiveness for retention of this group through the challenge and rigor of nursing education. Recommendations presented in the paper emerged from the comprehensive literature review of academic nursing education. The ultimate goal for this project was to contribute to the knowledge on how to support academic success of diverse and disadvantaged nursing students. This knowledge is essential in the nursing profession to not only increase the number of nurses, but also to improve the diversity in the workforce. The recommendations presented in this paper represent only one step in increasing the number of diverse nurses in the workforce. It is an important step toward achieving a balance and accurate reflection of nurses of various ethnic, racial, gender, experiential, and social backgrounds into healthcare.

**Theoretical Framework**

Bandura’s Social Learning Theory (SLT) (1977, 1986) was the conceptual framework utilized for this independent project. Social Learning Theory is also known as Social Cognitive Theory. The SLT framework aligned and supported the project in a multitude of ways that extended from the problem to the suggested solutions. The basic premise behind Bandura’s theory is that people learn from one another by either direct experiences or through the
observations and lived experiences of others. Although each individual cognitively processes and utilizes information, all information has context that is dependent upon countless factors (Bandura, 1977; Bandura, 1986). Social Learning Theory attempted to cluster and identify the countless factors into three groups: personal, behavioral, and environmental. Another concept integral to this independent project was Bandura’s (1977, 1986) concept of modeling and the belief that modeling of people with similar characteristics to the learner has a positive effect on the learner’s learning ability, motivation, and efficacy (Bandura, 1986).

The three main concepts and the foundation of Bandura’s SLT (1977, 1986) are personal, behavioral, and environmental elements. It is important to understand the foundation of SLT before exploring the concept of modeling and motivation. Personal, behavioral, and environmental concepts affect one another and have a reciprocal relationship with one another (Bandura, 1977; Bandura, 1986; McEwen & Wills, 2014). Bandura (1986) created the Triadic Reciprocal Causation model to describe the mutual relationship. Personal, behavioral, and environmental were aspects drawn as three separate points of a triangle with double sided arrows connecting each point. The center of the triangle was representative of the person and personal learning efficacy or success. The idea behind this model was that each factor is connected and will affect learner success. For example, personal factors such as how a person receives information will affect a person’s behavior for success. Alternatively, a person’s behavior will affect the way a person learns and his or her values toward efficacy. Social status is an environmental factor that can affect learning and behavior. A person with limited resources may have decreased access to learning opportunities or encouragement for higher education which affects obtainment of an occupation (Bandura, 1977, 1986). Learners do not have complete control over all aspects of concepts: personal, behavioral, and environmental. However, SLT
alleged that despite inability to control all aspects of personal, behavior, and environment concepts, learners have some control over what they learn (Bandura, 1977).

Modeling is one way people learn. Bandura (1977, 1986) described the concept of modeling as integral to learning. Modeling is the purposeful observation and imitation of another person’s behavior (Bandura, 1977; McEwen & Wills, 2014). It is a powerful and influential way of sharing cultural components such as beliefs, behaviors, actions, and attitudes (Bandura, 1986). Bandura (1977; 1986) claimed that all humans must learn through modeled behaviors. One example given of learning through modeled behavior was children learning language. Children must observe others using language and forming sounds to model the behavior themselves and eventually speak (Bandura, 1977). Bandura (1977, 1986) reasoned that in addition to being crucial, learning through modeling is faster and more efficient. Learning through modeling is also safer, because the learner can modify their behavior based on other people’s experiences, failures, and consequences (Bandura, 1986).

Learning through modeling has four components that affect modeling efficacy. Bandura (1977) determined the four components to be attention, retention, motor reproduction, and motivation. Attention is fundamental because a learner must pay attention to learn. The way a learner perceives the world and the model will affect how they apply their attention and filter the information. Retention is an important aspect in modeling because a learner cannot model a behavior if the information is not retained. Retention will vary depending on the type of learner and model. For example, some learners may retain the modeled information better if they practice the behavior. Bandura (1977) described motor reproduction as the learner converting cognitive ideas and information to an actual behavior. Motor reproduction may vary from a short to long process depending on the learner and motor abilities. Motivation is the fourth component
and relates to the influence, whether negative or positive. The influence of motivation affects how the learner acquires and performs the modeled behavior. Bandura (1977, 1986) proposed that model and learner attitudes, experiences, consequences (actual or perceived), and social pressures influenced a learner’s motivation to learn through modeling. As described previously, modeling of people with similar characteristics to the learner has a positive effect on the learner’s motivation to model an ability (Bandura, 1986). However, Bandura (1986) noted that there are countless factors that have not yet been identified that affect learner motivation when modeling behavior.

The purpose of this independent project was to examine the current literature and evidence of support and mentorship for diverse and disadvantaged nursing students. Bandura’s (1977, 1986) SLT provides a framework for this independent project because Bandura (1977, 1986) propositioned that numerous factors affect student learning. Bandura (1977, 1986) grouped the factors into three categories: personal, behavioral, and environmental. In the current nursing diversity shortage, educators have the opportunity to identify and influence potential and actual barriers and resources for nursing students of diverse and disadvantaged backgrounds.

Another way that Bandura’s (1977, 1986) SLT supports this independent project, is that modeling is an essential learning ability that is critical to all student efficacy, including diverse and disadvantaged students. Additionally, this independent project identified that diverse and disadvantaged student have unique barriers. Social Learning Theory expressed that attentional, retention, motor reproduction, and motivational processes all affect the efficacy of learning and the ability to model behavior (Bandura, 1977, 1986). The four components are tools be utilized in schools of nursing to assess and support diverse and disadvantaged learners.
Unfortunately, diverse nursing students lack diverse role models in nursing education (Muronda, 2016). Lack of diverse role models decreases learner motivation. Moreover, increasing the number of diverse faculty will take time and intentional effort. In the meantime, nurse educators can utilize SLT, a mentorship model or framework to build relationships between nurse faculty and diverse and disadvantaged students. Building relationships can assist students in breaking barriers and increasing modeling efficacy as modeling efficacy and learner motivation increase when the learner admires and holds the model in high esteem. Educators and students from different backgrounds can learn from each other, and this collaboration may increase patient safety in practice. The process of the comprehensive literature review that underpinned the project will be described in the next section.

**Process**

Three databases were searched to obtain a comprehensive review of literature in nursing academia. The databases searched were Cochrane, Cumulative Index of Nursing and Allied Health Literature (CINAHL), and PubMed. Grey literature was also examined. The term parameters of the search were grouped in three sets: mentor and diverse student, mentor and disadvantaged student, and mentor and at-risk student. Parameters were chosen based on an exploratory search of the term mentor with thousands of search results. The aforementioned parameter terms significantly narrowed down the results.

In the database search, initial study results were scanned to assess if they met the qualifications to be relevant and included in the literature review. To be included, initial study criteria were required to examine nursing student mentorship and were required to occur in academia only so clinical and career mentorship was excluded. The time parameter utilized was 10 years. Through this process, 20 distinct studies were gathered which will be described next.
The literature search began with Cochrane because this data base presented systematic reviews, which is the highest level of evidence (Melnyk & Fineout-Overholt, 2015). No relevant results were obtained. The search term “mentor” was searched with zero results. “Mentorship” was searched next with one result, but it did not meet the inclusion criteria described above. The next term searched was “disadvantaged student” with one result which also did not need inclusion criteria. “At risk” student was searched next with thirty-five results, in which none of them met the inclusion criteria. Lastly, “student mentorship” was searched with zero results. To confirm the search results, Cochrane was browsed by topic in the “health professional education” topic and no articles met the inclusion criteria.

The next database searched was CINAHL. The term “mentor” was searched which yielded 4,033 results. The term “student” was co-added to narrow the results to 1,692 results. Modified the term “student” to “diverse student” and 52 results were found. The results were reviewed individually with the initial finding of 15 studies that met the initial inclusion criteria. CINAHL was then searched for the terms “mentor” and “disadvantaged student”, yielding 13 results with two meeting the inclusion criteria. The two studies were redundant with the previous CINAHL search. Lastly, CINAHL was searched for the terms “mentor” and “at risk student” which resulted in 28 studies with one meeting the inclusion criteria. A total of 15 individual studies were produced from the CINAHL database search which was later narrowed down to a total of six studies: two that were specific to CINAHL and four studies that were obtained in CINAHL and PubMed. How the studies were narrowed by additional inclusion criteria will be described below.

Thirdly, PubMed was searched. The terms “mentor” and “diverse nursing student” were utilized and yielded 38 results. The results were again, reviewed individually, with eight studies
found to meet the inclusion criteria. However, six of the eight were the same studies from the CINAHL search. The terms “mentor” and “disadvantaged nursing student” were then searched with a result of seven studies and three were found to meet the inclusion criteria and one of the three studies was one gathered in the CINAHL search. The terms “mentor” and “at risk nursing student” were searched in PubMed with 31 results, two met the inclusion criteria, and one of the two were also gathered in the CINAHL search. The inclusion parameter of 10 years was utilized initially for a total of five studies specific to PubMed.

A total of 20 studies were further scrutinized and additional inclusion parameters were applied to narrow the results to make them more applicable to the independent project. Studies were required to be published in the last five years (2013 was the cut off), written in English, and occur only in United States. Six studies were published greater than five years ago, and three did not occur in the United States so a total of nine were eliminated. After the initial literature search and upon further critical analyzation five additional studies were removed. Three CINAHL exclusive studies were excluded because one article was on cultural competency instead of support and mentorship of students, and two studies were based on other healthcare related students. One article which was located on CINAHL and PubMed was excluded because it was more clinically based versus academic based. The last article which was located on CINAHL and PubMed was excluded because the evidence was weak and the author did not conduct a study. This narrowed down the total studies gathered from databases to six. Two were CINAHL exclusive, one was PubMed exclusive, and three studies were identified in both CINAHL and PubMed databases.

Through identification of grey literature, primarily either through links on CINAHL or in the study references, seven additional studies were gathered. The seven studies met all the
previously identified parameters. A final total of 13 studies were gathered for this literature review and met both the initial and subsequent inclusion criteria. Based on the total number of studies collected, further databases were not explored though education and social work databases would be of interest for future study. The next section will critically examine and evaluated the collected studies.

**Review of Literature**

This independent project was based on the author’s experience as a diverse nursing student. Overall, the review of literature showed that little literature published in the last five years related to support and mentorship in diverse and disadvantaged students. In total, 13 studies were retained from the search, synthesized, and evaluated. The evidence that emerged from the review was weakened because of small sample sizes. The majority of evidence was in the form of descriptive research. Of the 13 studies, 10 studies were qualitative (Beard & Julion, 2016; Brooks-Carthon, et al., 2014; Brooks-Carthon, Nguyen, Pancir, & Chittams, 2015; Condon et al., 2013; Corrigan-Magaldi et al., 2014; Dewitty, Huerta, & Downing, 2016; Latham, Singh, & Ringl, 2016; Metcalfe & Neubrander, 2016; Tab, 2016; Valentin-Welch, 2016). Anderson & Watkins’ (2018) study examined two theories that can be applied to diverse student support and mentorship. The remaining two studies presented systematic reviews of qualitative and descriptive studies (Dapremont, 2013; Loftin et al., 2013). The next section will investigate the five themes discovered in the literature.

**Literature Themes**

The literature review uncovered five themes related to supporting and mentoring diverse and disadvantaged student success: issues of race in nursing education, broad assessments of support services for diverse/disadvantaged nursing students, examination of successful
recruitment and retention models, diversity support programs, and mentoring only as an intervention. The first theme relates to the continuing presence of issues of race in nursing education. In fact, all but one study (Corrigan-Magaldi, et al., 2014) directly discussed barriers and issues related to efficacy of underrepresented groups of nursing students (Anderson & Watkins, 2018; Beard & Julion, 2016; Brooks-Carthon et al., 2014; Brooks-Carthon et al., 2015; Condon, Condon et al., 2013; Dapremont, 2013; Dewitty, Huerta, & Downing, 2016; Latham, Singh, & Ringl, 2016; Loftin, et al., 2013; Metcalfe & Neubrander, 2016; Tab, 2016; Valentin-Welch, 2016). Corrigan-Magaldi et al. (2014) addressed support of at-risk students but did not directly link that category to diversity or underrepresented groups.

The second theme identified was a broad assessment of support for diverse and disadvantaged students. This theme emerged from two studies (Brooks-Carthon, Nguyen, Chittams, Park, & Guevara, 2014; Brooks-Carthon, Nguyen, Pancir, & Chittams, 2015). Both studies concurred that some type of support was essential to the success of diverse students. The third theme that emerged from the literature review was research of specific successful recruitment and retention models that were best practice (Dapremont, 2013; Loftin et al., 2016). Both studies examined multiple support structures.

The fourth theme had the largest amount of literature and examined specific diversity or at-risk student support programs, also known as pipeline programs. Metcalfe & Neubrander (2016) describe pipeline programs as specific programs that increase diversity in nursing. Additionally, pipeline programs have increased in the last decade (Metcalfe & Neubrander, 2016). Four studies examined diversity support programs and one examined an at-risk student support program. The programs varied in structure and interventions (Condon et al., 2013; Corrigan-Magaldi et al., 2014; Dewitty, Huerta, & Downing, 2016; Metcalfe & Neubrander,
The fifth theme was mentoring as a specific intervention for supporting diverse and disadvantaged students (Anderson & Watkins, 2018; Latham, Singh, & Ringl, 2016; Valentin-Welch, 2016). The next section is a deeper examination of the five themes.

**Issues of Race in Nursing Education**

The first theme identified in the literature review related to issues of race in nursing education. Beard & Julion’s (2016) study is an important starting place to set the groundwork for the other five themes. Beard & Julion (2016) examined the lived experiences of African American nursing faculty in an academic setting by interviewing 23 faculty via email with narrative style questions. Thus, the qualitative study, was written with narrative answers that allowed deeper exploration of concepts and connections through the respondent’s points of view.

Beard & Julion (2016) found that the issue of race in nursing education prevails despite the crucial need for increased faculty and student diversity. Barriers such as microaggressions, social isolation, and marginalization continued to negatively affect African American nursing faculty success. Other factors such as pay inequality, role strain, and lack of interest in nurse education were also identified as contributors in the shortage of diverse nursing faculty. Issues affecting diverse faculty members were especially pertinent to this independent project because insufficient diverse faculty is a critical barrier to recruitment and retention of diverse and disadvantaged nursing students. Lack of diverse faculty correlates to the lack of diverse role models to support, mentor, and increase motivation of diverse and disadvantaged students (Beard & Julion, 2016).

**Broad Assessment of Support Services for Diverse/Disadvantaged Nursing Students**

As previously stated, Muronda (2016) and Metcalfe & Neubrander (2016) identified that diverse and disadvantaged nursing students have additional unique barriers to completing their
degree. Barriers included social isolation, lack of diverse role models, and lack of faculty support. The second theme identified in literature was the assessment of successful support services for diverse and disadvantaged students. Brooks-Carthon et al. (2014) conducted a descriptive study with a cross-sectional survey of 164 schools of nursing to identify the various support interventions utilized to recruit and retain diverse and underrepresented nursing students. The Brooks-Carthon et al. (2014) created the electronic survey and sent it to 424 schools with 164 responding. The response rate of 39% was a limitation of this study. The authors correlated the presence of support resources and diversity enrollment but not could not say for sure that students enrolled because of identified support resources. Strengths of this study included that outside field experts administered, assessed, and tested the survey to prevent researcher bias.

Brooks-Carthon, et al., (2014) found common support services offered included mentoring, academic, and psychosocial support within nursing differing support programs. The terminology pipeline program is used interchangeable with support programs on some studies. Mentoring varied from peer, faculty, community, and dedicated staff relationships. Academic support varied from tutoring to study skills. Psychosocial supports also varied across programs. Some programs utilized a professional counselor; whereas, others utilized peer led groups. Brooks-Carthon et al.’s (2014) overall conclusion was that investing in support measures, specifically mentorship, tutoring, and psychosocial supports was crucial to the success of diverse and disadvantaged students and that pipeline programs positively impacted recruitment and retention of diverse nursing students. However, only 20% of nursing programs had an officially developed pipeline programs.

In 2015, Brooks-Carthon et al., published a new study to determine if enrollment patterns of ethnic minorities are static or dynamic in relation to diversity support services. Brooks-
Carthon et al., (2015) created a descriptive study with a cross sectional survey component. The authors sent out an electronic survey to 164 nursing schools and ended up with a small sample size of 25 respondents. In addition to the survey, the authors gathered enrollment data from the period of respondent enrollment. A limitation was the small sample size. The authors cautioned that just because a specific diverse population was enrolled does not necessarily mean that every diverse person utilized support services (Brooks-Carthon et al., 2015).

Brooks-Carthon et al. (2015) found that diverse and disadvantaged nursing students from different groups or backgrounds sought out different support services. For example, Black and African students were more likely to be enrolled in a university with financial support, mentoring, academic supports, psychosocial supports, diversity workshops, community partnership, and clinical experiences. Hispanic students were more likely to be enrolled in campuses with academic support, mentoring, diversity workshops, and community service. Brooks-Carthon, et al. (2015) recommended tailoring support services to targeted diverse and disadvantaged nursing student populations for best success. The third theme identified for this literature review were studies that examined multiple but specific successful minority recruitment and retention models.

**Examination of Successful Recruitment and Retention Models**

Dapremont (2013) conducted a literature review that investigated pipeline models of successful recruitment, retention, and decreased attrition rates of minority students. Through a systematic search of four main databases, Dapremont (2013) retained seven models that fit the defined parameters. The five defined parameters included: English language, published in peer reviewed journals from January 2000 to December 2011, of observational or experimental
designs, and implemented in an undergraduate nursing program. While the studies examined minority students, the student’s age, ethnicity, and education levels varied.

Dapremont’s (2013) literature review established that minority retention and academic success increased with supportive interventions. Academic success was measured by decreased attrition and increased NCLEX pass rates. Supportive interventions commonly implemented included academic and financial support, community partnerships, and peer and faculty mentorships. One program implemented three open forums each year where diverse students could discuss student issues and concerns with faculty. Another program implemented a rigorous orientation for students before the semester began in which integrated academic supports such as test taking strategies, teaching styles, and software education were provided. Dapremont (2013) identified that the visibility of diverse faculty was crucial to increasing recruitment and retention of diverse and disadvantaged nursing students.

Loftin et al. (2013) explored the literature for studies examining recruitment, retention, and attrition of diverse students. Loftin et al. (2013) searched four databases: CINAHL, Educational Resources Information Center (ERIC), EBSCO, and PubMed. Studies retained needed to specifically identify support interventions for underrepresented nursing students. Only studies published between 2000 and 2011 were retained. In the 11 retained studies, Loftin et al. (2013) identified numerous models with interventions that increased the retention of diverse nursing students. Additionally, four of the studies found increased NCLEX pass rates on the first attempt with implementation of support interventions.

Interventions implemented by the studies included academic supports such as tutoring, test-taking strategies, time management, and study skills education. Academic tutors included faculty, peers, and community nurses. Included under the umbrella of academic tutoring was
identification of generally difficult courses and NCLEX pass rates. Interventions were then targeted in those areas of attrition. Support and mentorship was identified in the nursing programs but also in pre-entry orientation programs. Other interventions identified through Loftin et al.’s (2013) literature review were two programs that provided tutoring to high school programs to assist diverse students in applying for nursing programs. In total, eight of the eleven studies presented academic interventions implemented in nursing programs (Loftin et al., 2013).

Mentoring was an intervention used in seven of the 11 studies reviewed; however, it was implemented differently in each model (Loftin et al., 2013). Mentoring activities were provided in these models by peers, faculty, life coaches, and community nurses. The structure of the mentorship relationship varied greatly among the reviewed models. In one model, students met weekly with the mentors, while in another they only met three times a year in an open forum with faculty, and in another model the meetings dates and times were not scheduled and had a purposeful informal structure.

Six of the 11 studies had some variance of faculty or mentor cultural education to increase the retention of diverse nursing students (Loftin et al., 2013). Five of the programs had a form of cultural awareness programs, workshops, or conferences for faculty. One of the programs hired a retention specialist to assess and consult with the school on the retention of diverse nursing students.

Loftin et al. (2013) identified one additional common intervention of environmental/financial factors. All 11 projects conversed financial aid and scholarship information with their students. Four of the eleven studies provided stipends as a financial resource. Two models supplied laptops to students. One model assisted with course textbooks. In conclusion of the literature review, Loftin et al. (2013) ascertained that multiple interventions
were crucial to diverse nursing student success but that there was a surprisingly large gap in the literature as to studies that examine specific support and mentorship interventions. Loftin et al.’s (2013) revealed that there was no one specific intervention or combination of interventions that was proven to be best practice for support and mentorship of diverse and disadvantaged nursing students. Loftin et al. (2013) found a broad commonality in the programs is that programs developed interventions of support and mentorship that they believed would best benefit the program and students. Each program was specific to itself.

This sub-section reviewed literature pertinent to the third theme uncovered in the literature review, which was successful models for recruitment and retention of nursing students. The fourth theme found in this independent project’s literature review will be explored in the next sub-section. This theme examines specific diversity support and mentorship models and programs and their specific interventions within the last five years.

**Diversity and At-Risk Support Programs**

Five studies were obtained that specifically explored individual diversity support programs and at-risk student support programs (Condon et al., 2013; Corrigan et al., 2014; Dewitty, Huerta, & Downing, 2016; Metcalfe & Neubrander, 2016; Tab, 2016). In 2013, Condon et al. (2013) utilized a summative evaluation study design to examine a HRSA funded program called: Success in Learning: Individualized Pathways Program (SLIPP) program. The purpose of SLIPP was to increase the retention and decrease attrition of diverse nursing students and was implemented at a faith-based health sciences university. Condon et al. (2013) implemented a qualitative survey with an interview portion, which they called “summative evaluation” (p. 397). There were 77 participants. Condon et al. (2013) also integrated student records and assessed NCLEX pass rates and graduation rates as part of their data collection.
The SLIPP support model was based on Condon’s doctoral study and literature examination of support programs of diverse nursing students (Condon cited in Condon et al., 2013). The five themes in the model were pre-entrance preparation, academic support, social support, financial support, and faculty development (Condon et al., 2013). Condon et al. (2013) reported that the school of nursing decreased admission requirements, including GPA score for those students from diverse or underrepresented groups. To support that change Condon et al. (2013) implemented a pre-entrance preparation course. The pre-entrance program was a quarter in length and students were required to take credits in critical thinking, introduction into nursing, nursing informatics, math, medical terminology, reading, and writing. Ethnically diverse faculty taught the course and diverse advisors worked with the students. Social, spiritual, and financial pathways were discussed in relation to students identified strengths, weaknesses, barriers, and goals.

Financial support was also addressed in the form of a $1,000 scholarship per quarter, a computer, and a stipend. An interesting component of the advisor and advisee relationship was that an academic plan with a holistic approach was developed. The advisors were also the student’s point of contact to converse about concerns. Advisors would also connect students with additional resources such as tutoring and NCLEX preparation. A mentorship relationship was created between student and advisor. Peer, faculty, and family support was also encouraged as based on Condon’s model and identification as potential barriers in those areas (cited in Condon et al., 2013). Another important aspect to the SLIPP program was faculty education and development presented in seven faculty workshops over 42 hours. Topics addressed such as teaching and learning methods, interactive learning methods, critical thinking application, curriculum planning, cultural competence, and mentoring (Condon et al., 2013).
Condon et al.’s (2013) study identified that diverse and disadvantaged nursing students can overcome barriers and become successful with specific supports. Condon et al.’s (2013) initial goal was that all students graduate and pass the NCLEX. The study identified that the actual NCLEX pass rate for the 70 that graduated, was 98.6%. Of the graduates, 86% of the graduates practiced in underserved areas. Of the total respondents, 98% reported that self-motivation was a crucial piece of being successful. The questionnaire asked about academic advising and study groups but not mentoring specifically. Condon et al. (2013) identified that future areas of research include the most effective interventions need to be discovered in both outcomes and cost.

In 2016, Tab conducted a descriptive study that examined a HRSA funded project: Are (R) You (U) in (N) to (2) Nursing (RUN 2 Nursing) program. The RUN 2 Nursing program was a support program for minority nursing students who specifically came from disadvantaged and rural areas. The purpose was to increase recruitment and retention of rural minority students. The RUN 2 Nursing program utilized faculty mentorship. Academic support was in the form of peer tutoring, NCLEX review, and study and time management workshops. The student tutors were responsible to monitor eight to 10 participants and participant academic progress. Financial support was provided in the form of scholarships. A stipend was given to faculty as compensation for their time as a mentor. Additionally, faculty had the opportunity for leadership training and cultural sensitivity workshops. Tab (2016) did not express the opportunities in-depth. Faculty mentors had four requirements including commitment to mentoring, ability to work with diverse students, met with students a minimum of three times, and completion of study survey.
The author collected data with 18-item email surveys and an additional tutoring evaluation tool (Tab, 2016). The surveys utilized the Likert scale. One of the 18-item surveys was completed by faculty mentors and was based on measuring the faculty to mentee relationship. Specific categories that data was collected included participant attendance, motivation, and overall academic progress. The total faculty participation in the surveys was 68. Another 18-item survey asked the students to evaluate their experiences, satisfaction, and academic success. Sixty-two students completed faculty evaluations. Students evaluated the faculty mentors on their support, encouragement, feedback, availability, and overall satisfaction. The tutoring assessment tool assess participant’s perception of peer tutoring efficacy including academic improvement, support, feedback, relationship, and satisfaction. Fifty-five evaluations were examined. In all of the evaluations, the overall mean was no less than 4.7 on a scale out of five. Five represented the evaluator strongly agreeing with positive evaluative statements. This finding indicated that faculty mentors and students had overall positive experiences.

Tab (2016) also collected data such as attrition rates, NCLEX pass rates, and retention rates. Tab (2016) determined that the interventions implemented correlated with increased retention, graduation, and NCLEX pass rates of the participants. One limitation was that Tab (2016) did not report previous NCLEX pass rates for the college or minority students; thus, the increase in rates subsequent to the interventions was not clear.

In 2016, Metcalfe & Neubrander published a descriptive study examining the Nursing Network and Careers and Technology Nursing Mentoring Program (NN-CAT). The purpose was to describe the HRSA funded NN-CAT programs and outcomes. Metcalf & Neubrander’s (2016) study spanned two years. Metcalfe & Neubrander (2016) reported nine students were admitted to the nursing program and while none had reached graduation at the time of publication, three
were expected to graduate shortly afterward. Since Metcalfe & Neubrander’s (2016) article was written before graduation of participants had occurred, graduate and NCLEX pass rates were not available at time of study’s publication.

Metcalfe & Neubrander (2016) used direct data from the total number of diverse nursing students (22 students) to evaluate the program, i.e. number of students and reason for attrition. Metcalfe & Neubrander (2016) reported attrition rates of six of the 22 students (27%). Metcalfe & Neubrander (2016) noted that their attrition rates were comparable to national averages.

Metcalfe & Neubrander (2016) attributed the attrition rate of NN-CAT participants to student failure with science courses, the Test of Essential Academic Skills (TEAS) entrance exam, and personal issues despite support resources in place. Personal issues included financial need and family need.

The NN-CAT program served as a nursing mentorship program with the goal of increased diversity in nursing. The NN-CAT utilized numerous supportive interventions including mentorship, financial assistance, and academic assistance. Mentorship was in the form of faculty and community nurses. Mentors were formally trained to mentor minority students. Mentor training began with initiation of the mentor role and monthly thereafter. Financial resources included scholarships and stipends funded by HRSA. Academic support included individual and group tutoring (Metcalf & Neubrander, 2016).

Dewitty, Huerta, & Downing (2016) examined mentorship through a broader lens than just one program but still focused on mentorship and financial resources by evaluating the success of the New Careers in Nursing (NCIN) scholarship program. The purpose of the seven year program study was to assess the goals and outcomes of the NCIN scholarship program. The four goals of the study were to examine the student’s self-satisfaction with their learning
environments, insights on the effectiveness of the pre-entry immersion programs (PIP), insights to mentorship and leadership opportunities, and identification of barriers and resources to their own academic nursing success.

The 130 schools awarded NCIN funding had regulations to follow related to the four goals and outcomes. Scholarships needed to be awarded and awardees needed to be part of underrepresented or economically challenged group. As part of the scholarship, schools of nursing needed to provide mentorship which varied but could include faculty, nursing professionals, assigned advisors, and upperclassmen. An additional part of the NCIN funding was support for leadership development and the development of a PIP. The PIP had to include 12-16 hours of content that would prepare the future nursing students for academic success. Content that was encouraged included math, writing, medical terminology, critical thinking, time management and test taking/study skills. Building self-confidence of the awardees was also encouraged.

Dewitty et al. (2016) surveyed 3,419 undergraduate nursing students who received the New Careers in Nursing (NCIN) scholarship over seven years. Each student was sent three surveys at specific points in the program, e.g. the beginning, middle, and end of their academic nursing career. The main limitation was that there were numerous factors investigated that it was impossible to know what intervention was the best or worst for individual schools of nursing and specific diverse populations. Schools of nursing had a large amount of autonomy with developing mentor and support services other than the previous described restrictions. Thus, each of the 130 funded schools were allowed to establish and define their own key variables related to culture, culture climate, student resources, etc. Though data related to ethnicity, program type, gender, marital status, economic status, and English as a first language, they were not, for the
most part, directly linked in this study. The exception is that through this study, Dewitty et al. (2016) identified Black and African American students had a significantly lower comfort with cultural climate compared to other groups.

Overall, the study found that most scholarship recipients were satisfied with their learning environments, supports, and relationships in whatever way the college created the support. The specific details of the 130 respondents was not stated but instead general trends were identified through the questionnaire. The questionnaire study found that students felt comfortable with people for diverse backgrounds from their own. The students felt that the PIP was helpful because it prepared them for nursing school. The students felt that the NCIN program allowed them to have lower stress, more school focus, more program opportunities, and in obtaining their goals through financial assistance.

Dewitty et al.’s (2016) study found that student perceived concerns changed as students progressed through nursing school. Initially, students felt their barriers were financial, time management, grades, family needs, and the time required to succeed in the program. Midway through the nursing program, the majority of students felt they had no barriers to completing their degree with a minority of students feeling financial, academic performance, and personal barriers. At the completion of the program students felt that financial issues were the major concern with a smaller number of students facing academic and personal barriers.

Corrigan-Magaldi et al.’s (2014) descriptive study examined specific strategies that increased first time NCLEX pass rates for students identified as at-risk. Eleven at-risk students were identified via nursing course grades in the third semester. The main two interventions studied by Corrigan-Magaldi et al. (2014) were academic support and mentorship. Academic support included access to an online program that contained modules, diagrams, videos, and
links to other resources that assisted the student to focus on critical concepts. Adaptive quizzing was also utilized with NCLEX style questions. Students completed 200 questions per week and were required to review the question rationales. Mentorship was utilized in the form of faculty sent group emails to students providing encouragement and support. There was also the opportunity for students to contact faculty via individual emails and meetings. Corrigan-Magaldi et al. (2014) reported a 91% (n=11) class and program pass rate. The course participants also reported the course helpful in their success.

Though diverse or disadvantaged students included in this study were not specifically identified as part of the at-risk student population in this study, the majority of the interventions aligned with support measures previously identified to overcome barriers that diverse and disadvantaged students face. Additionally, the review of diversity recruitment and retention models by Dapremont (2013) and Loftin et al., (2013) found that similar interventions increased NCLEX pass rates; thus the study was retained for the project. The majority of the programs examined in the fourth theme had aspects of mentorship integrated into them. The fifth theme is related to studies that examine mentorship only as an intervention and will be discussed in the next sub-section.

Mentorship

Anderson & Watkins (2018) conceptually analyzed peer mentorship in the scope of two learning theories: humanistic adult education philosophy and social constructivism. The purpose of Anderson & Watkins’s (2018) article is to give nursing faculty background information on peer mentorship so faculty can apply the principles of mentorship to their nurse education and practice. Peer mentorship was described as the opportunity for peers to learn from one another. It can be formal or informal. It is collaborative and inherently decreases power differentials and
increases leadership skills between peers. Peer mentorship also encourages student centered learning.

Anderson & Watkins (2018) applied two learning theories to the concept of peer mentorship. Two theories were humanistic adult education philosophy and social constructivism theory. Humanistic adult learning theory encourages the student to take control of their learning. Students must have a level of motivation to learn. Self-awareness and drive are the student’s responsibility. The education is the guide, but learning is student centered. Upper classman students mentoring underclassman encourages students to set their own goals, work towards them, and be responsible for their goals.

Social constructivism theory and peer mentoring relate to each other in the fact that peer mentorship is social learning (Anderson & Watkins, 2018). Additionally, through peer mentorship, student’s influence each other to learn and grow. Student motivation can increase or decrease through peer mentorship. To increase the positive affect of peer mentorship, the mentee will need to respect and look up to the mentor to increase their motivation (Anderson & Watkins, 2018). Anderson & Watkins (2018) did not implement and examine data related to a study. However, after examining how the two theories relate to peer mentorship, Anderson & Watkins (2018) addressed recommendations for nurse education practice. Peer mentorship is important to integrate into nursing educational practice, but nurse educators must be there to guide students and ensure power dynamics are appropriate. Mentorship relationships should be optional, required, volunteer, formal, and informal. Mentorship in this concept provides students with varying learning opportunities. Lastly, Anderson & Watkins (2018) encourage that peer mentorship relationships require motivation on both sides of the relationship to meet both parties’ needs.
Valentin-Welch (2016) published a descriptive study on informal, online mentorship in diverse students. The purpose of Valentin-Welch’s (2016) study was to explore the Midwives of Color Committee (MOCC) mentoring program and MOCC programmatic outcomes. The MOCC program was an online mentoring program between mostly diverse minority nurse-midwives and diverse minority student nurse-midwives. The mentorship relationship was voluntary and self-structured and not limited to a specific regional area in the United States of American.

Data was collected via two surveys, one for the mentor and one for the mentee. The mentor survey included 17 questions plus two open ended questions, for a total of 19 questions. Eleven questions were quantitative and the remaining eight were qualitative. The mentee survey was identical to the mentor survey with the exception of one additional question. Mentees were asked if they wanted academic support in addition to mentorship (Valentin-Welch, 2016). Valentin-Welch (2016) reported 109 participants in the program but only 42 mentees and 44 mentors were sent an online survey with 16 mentee and 22 mentor respondents. Although the sample size was small, it represented a high percentage of total participants.

The survey results trended towards a positive experience for both mentor and mentee. Satisfaction, timeliness, connection, and confidence were all reported. Eighty percent of mentees reported the benefits of emotional and mental support. Lack of communication, the online nature, and lack of academic support decreased satisfaction (Valentin-Welch, 2016). There were several significant limitations of this study. First, the sample may not have accurately represented the population and the author did not provide rationale for the selected participants and Valentin-Welch (2016) acknowledged the analysis of the open-ended answers was without established inter-rater reliability, which could have incorporated the author’s biases.
In 2016, Latham, Singh, & Ringl implemented a descriptive study of a peer mentoring program for diverse undergraduate nursing students. The purpose was to provide diverse students with peer mentoring to increase diverse student success. Through literature, Latham et al. (2016) identified that mentorship in unfamiliar situations is positive for the learner. Latham et al. (2016) applied this concept to diverse nursing students such as those who more likely to be first generation or diverse. However, not all mentees and mentors were diverse or disadvantaged.

In general, mentees were underclassmen and mentors were senior classman nursing students. Latham, et al.’s (2016) mentor model was strictly structured in how and when mentor and mentee would meet. The peer mentorship was connected to an academic course and grades were given. Communication was through an online portal. Mentors and mentees were expected to communicate monthly. Mentors were limited to two mentees. A peer mentor coordinator would organize and monitor the peer mentorship.

After meetings, mentors were asked to journal their experience in the online portal to increase critical thinking skills and share information (Latham et al., 2016). This data was reviewed by two faculty for themes. The themes and data where utilized in shared governance meetings. Shared governance meetings were meetings where nursing administration and mentors would meet to discuss concerns, barriers, and potential solutions. Latham et al. (2016) stated that confidentiality in the shared governance meetings was of utmost importance. The purpose of shared governance was to assist the student mentor in identifying themes and build the mentor’s nursing leadership skills (Latham et al., 2016).

Latham et al. (2016) implemented four already established questionnaire surveys in which qualitative and quantitative data was collected. This study differed from the others in the fact that not only ethnicity was examined but also lifestyle, social, and academic data was
collected. The data was collected through surveys, group evaluations, focus groups, and reflective journals. The survey tools utilized includes Multigroup Ethnic Identity Measure (MEIM). The MEIM utilized a Likert scale to assess ethnic identity. The Lifestyle Profile (LP) was also utilized and assessed 48 items related to race, ethnicity in relation to stress management, self-actualization, exercise, nutrition, health accountability, and interpersonal support. The third survey utilized was the Perceived Social Support (PSS) which is 40 questions that assesses support of the person being assessed. Lastly, the School Success Factor Index (SSFI) was administered which is 80 items that assesses college success. The total sample was 89 mentors and mentees. The overall study found that peer mentorship benefitted both parties and allowed mentors to assist mentees in identifying potential barriers. Latham et al. (2016) revealed that journaling was helpful for not just the students, but also for those in support positions who want to decrease student barriers.

Metcalfe & Neubrander (2016) found that despite support and mentorship interventions, attrition rates continued to reflect national standards. Anderson & Watkins (2018) described how social constructivism theory and humanistic adult education philosophy could be applied to mentorship and support of divers and disadvantaged students. Interventions were not implemented.

**Summary**

In conclusion, five themes were identified related to supporting and mentoring diverse and disadvantaged student success: issues of race in nursing education, broad assessments of support services for diverse/disadvantaged nursing students, examination of successful recruitment and retention models, diversity support programs, and mentoring only as an intervention. This literature review identified that support interventions increase diverse and
disadvantaged student retention and success. Of the total 13 studies, 11 identified that supports and/or mentorships positively increased diverse and disadvantaged nursing student retention and success (Beard & Julion, 2016; Brooks-Carthon et al., 2014; Brooks-Carthon et al., 2015; Condon et al., 2013; Corrigan-Magaldi et al., 2014; Dapremont, 2013; Dewitty et al., 2016; Latham et al., 2016; Loftin et al., 2016; Tab, 2016; Valentin-Welch, 2016). The support and mentorship interventions varied and no one intervention was identified as the best practice or gold standard. Most studies agreed that more research is needed.

The next section will include interpretation of the evidence from the literature review. It will describe the outcome and implications for nursing practice, education, policy, and research that emerged from the literature review. The dissemination plan is also detailed.

**Discussion**

**Interpretation**

Bandura’s (1977, 1986) SLT is a worthy framework to help schools of nursing to identify diverse and disadvantaged student needs. Bandura (1977, 1986) identified that environmental, personal, and behavioral factors positively and negatively affect student success. Schools of nursing can utilize SLT to determine potential and actual barriers for diverse and disadvantaged students. Support measures can also be implemented to increase student success. Bandura’s (1977, 1986) SLT ascertained that learners acquired knowledge and skills more effectively when they respected and admired the person modeling the behavior. Through mentorship and modeling, nurse educators can increase motivation and success of diverse and disadvantaged nursing students.
Environmental factors.

Bandura (1977, 1986) described social status, the physical location and resources the student needs to learn, and the culture and climate of people the learner interacts with as environmental factors. Nursing school is rigorous and can be costly for the students and their families. Insufficient financial support is a major barrier to student success (Condon et al., 2013). Diverse nursing students are more likely to work multiple jobs in addition to school (Brooks-Carthon, 2014). Addressing financial barriers has the potential to positively affect diverse and disadvantaged nursing student retention and success (Brooks-Carthon et al., 2015; Condon et al., 2013; Dapremont, 2015; DeWitty et al., 2016; Loftin et al., 2013; Metcalfe & Neubrander, 2016). Financial support comes in various forms. For example, scholarships or monthly stipends may allow students to work less and focus more on school (Brooks-Carthon et al., 2015; Condon et al., 2013). Nursing schools require students to invest in specific equipment such as computers, textbooks, a stethoscope, and uniforms. Providing funding or purchasing the equipment alleviates or decreases the investment as financial barrier (Condon et al., 2013; Loftin et al., 2013).

Another environmental factor that can become a barrier to nursing student success is culture and climate issues such as microaggressions, social isolation, and marginalization which still occur for diverse faculty and likely for students as well (Beard & Julion, 2016; Brooks-Carthon et al., 2014). Additionally, a negative learning environment may decrease a student’s confidence and learning ability (Brooks-Carthon et al., 2014). Providing and encouraging diversity training specific for mentors can assist mentors in identifying and discussing culture and climate issues with students (Brooks-Carthon et al., 2015; Loftin et al., 2013).
**Personal factors.**

In SLT, personal factors that affect learning include how the learner receives and processes information. How the learner learns can be affected by past experiences and instincts (Bandura, 1977, 1986). Diverse and disadvantaged nursing students are more likely to be academically underprepared and may have English as a second language (Brooks-Carthon et al., 2014; Brooks-Carthon et al., 2015). Both of those personal factors may be a barrier to get into a nursing program, as well as the ability to succeed in the nursing program. However, peer and mentor academic tutoring and academic preparation positively affected student outcomes (Brooks-Carthon et al., 2014; Brooks-Carthon et al., 2015; Condon et al., 2013; Corrigan-Magaldi et al. 2014; Dapremont, 2013; Loftin et al., 2013; Tab, 2016).

Pre-entry programs or seminars may be helpful for diverse pre-nursing students in developing the skills they will need to get into and succeed in nursing programs. Topics such as critical thinking, test taking skills, math, medical terminology, nursing informatics, reading, and writing may assist in preparing students (Condon et al., 2013; Loftin et al., 2013). Once in the nursing program, structured or unstructured mentor and peer tutoring can be utilized to support students. Both group and individual tutoring can also be beneficial (Dapremeont, 2013; Loftin et al. 2016). Weekly meetings between nursing students and tutors or mentors can assist in the early identification of academic concerns and barriers with a goal of preventing the student from seeking help when it is too late (Corrigan-Magaldi et al., 2014; Tab, 2016).

**Behavioral factors.**

Bandura (1977, 1986) described behavioral factors as behaviors that the learner does or does not attain depending on environmental and personal factors. Behavioral factors are affected
by motivation (Bandura, 1977, 1986). When actual and potential barriers are identified and decreased, student success increases (Dapremont, 2013; Loftin et al., 2013). An example of this kind of barrier might be when a student is a poor test taker and has often not experienced positive outcomes when testing. Thus, the student’s self-esteem is negatively impacted, which in turn decreases motivation to study for a nursing entrance exam (a type of measurement of success). This negative cycle can be stopped when a mentor or tutor offers test taking strategies and practice questions to the student. The student’s confidence increases, as does the potential for success. The increased confidence then will inspire motivation to study for the entrance exam.

**Modeling and mentorship.**

Bandura’s (1977, 1986) SLT established that learning from modeling is a powerful and influential way to develop knowledge and skills. If the role model is similar to the student and/or the student respects and admires the role model, the student’s motivation and ability to learn increases. Diverse and disadvantaged student success increases. Mentorship relationships can be between the student and a peer or with faculty, life coaches, or with someone from the community. Mentorship relationships can be voluntary or have structure and requirements. Mentorship can occur in-person or online. Regardless of the delivery method, mentoring increases student success (Anderson & Watkins, 2018; Beard & Julion, 2016; Brooks-Carthon et al., 2014; Brooks-Carthon et al., 2015; Condon et al., 2013; Corrigan-Magaldi et al., 2014; Dapremont, 2013; DeWitty et al., 2016; Latham et al., 2016; Loftin et al., 2013; Tab, 2016; Valentin-Welch, 2016).

**Recommendations.**

The nursing shortage and the critical shortage of diverse and disadvantaged nursing students is not going to resolve on its own. Purposeful and thoughtful interventions need to be
developed and implemented at the lowest education level to create a diversified workforce and eventually a diversified nursing faculty workforce. The recommendation of this independent project is that Bandura’s (1977, 1986) SLT framework be utilized to create and implement the support and mentorship of diverse and disadvantaged nursing students.

Condon et al.’s (2013) study discovered that 98% of nursing student respondents reported self-motivation as one of the critical factors in their success. Bandura’s (1977, 1986) SLT described positive role models and mentors as essential to increasing student motivation, learning, and success. Mentors have an important role to increase student self-motivation and learning (Condon et al., 2013; Corrigan-Magaldi et al., 2014; DeWitty et al., 2016; Tab, 2016).

Mentors can work with students in the program to identify, prevent, and overcome barriers. Bandura (1977, 1986) categorized barriers into environmental, personal, and behavioral. An example of a mentorship and support model could be a mentor teaching a pre-entry course that pre-nursing students take before they enter the nursing program (Condon et al., 2013). The course could meet weekly and address common personal academic barriers of diverse and disadvantaged students: critical thinking, test taking skills, math, medical terminology, nursing informatics, reading, and writing (Bandura, 1977, 1986; Condon et al., 2013; Corrigan-Magaldi et al., 2014; Loftin et al., 2013). Additionally, mentors can teach students how to find and apply for scholarships which addresses environmental barriers (Bandura, 1977; 1986; DeWitty et al., 2016; Loftin et al., 2013). The mentors can also identify a need and connect students with personal and behavioral resources such as academic advising, counseling, and tutoring (Bandura, 1977, 1986; Brooks-Carthon et al., 2014; Brooks-Carthon et al., 2014; Dapremon, 2013; Loftin et al., 2013). Through the course, mentors can guide students to build a community to decrease
social isolation and increase their motivation to learn (Muronda, 2016; Metcalfe & Neubrander, 2016; Valentin-Welch, 2016).

**Outcome & Dissemination**

This independent study’s deliverable product was a poster presented, at the University of North Dakota’s College of Nursing and Professional Discipline’s Research and Scholarship Fair on April 19th, 2019 (Appendix B). Attendees included faculty, staff, and students from social work, nutrition, and nursing. The overall university and public were also invited. The poster presented evidence of the numerous support and mentorship interventions that increase the success of diverse and disadvantaged nursing students. The poster also presented that Bandura’s (1977, 1986) SLT as the framework to increase diverse and disadvantaged student success. Through discussion with the attendees, I learned there was great interest in support and mentorship of diverse and disadvantaged students in nursing education but also in other health related fields. Inquiries were made about the model and areas of future research. Specific positive feedback on the layout of the poster was given.

**Implications for Nursing Practice.**

There are numerous practice implications for the support and mentorship of diverse and disadvantaged nursing students. In nursing practice, the lack of a diverse nursing workforce directly decreases patient safety, satisfaction, and increases health inequities (Brooks-Carthon et al., 2014; IOM, 2003; Loftin et al., 2013; Muronda, 2016). Increasing diversity in nursing practice may increase the amount and quality of care provided in diverse and underrepresented patient populations (AACN, n.d.; Condon et al., 2013). Diverse nursing students positively affect the perceptions, attitudes, and knowledge of their nursing student colleagues, which in turn
positively affects future nursing practice (DeWitty, 2018). The same concept of altering perceptions can be applied to diverse nurses, their environment, and their coworkers.

Diverse nurses, whether they are new to nursing or new to the role, may encounter the same barriers as diverse and disadvantaged nursing students: social isolation, lack of diverse role models, and lack of support (Beard & Julion, 2016; Brooks-Carthon et al., 2014, Muronda, 2016). However, diverse nurses may also encounter pay inequity and role strain (Beard & Julion, 2016). Bandura’s (1977, 1986) SLT model can be applied in a similar way to nurses as it can be applied to nursing students. Mentors can identify actual and potential environmental, personal, and behavioral barriers and the resources to overcome them. Mentors can also serve as role models that guide and increase nurse motivation to learn the new skills necessary to succeed their new roles. A mentor model style that may work best with the diverse nursing shortage, variable shifts, and variable expectations of nurses is online mentorship. The online model could be voluntary and through email, with no set communication schedule. The new nurses, or new to role nurses, can connect and communicate with established diverse nurses through email (Valentin-Welch, 2016).

Education.

The education recommendation of this independent project is for schools of nursing to utilize Bandura’s (1977, 1986) SLT to develop an official mentorship and support program. Despite the evidence that support and mentorship increases diverse and disadvantaged nursing student success, only 20% of nursing programs have an officially developed support program (Brooks-Carthon et al., 2014). Bandura’s (1977, 1986) SLT can be utilized by nursing programs to develop a specific support and mentorship model that aligns with their school of nursing needs and resources. Students usually have access to academic advisors. Academic advisors can create
a professional academic mentorship relationship with pre-nursing students. In the meetings, academic advisors can utilize SLT to identify actual and potential barriers for each student and use that information to connect students to resources such as academic planning, scholarship applications, tutors and test taking skills.

Diverse and disadvantaged nursing students lack diverse role models and mentors (Beard & Julion, 2016; NCSBN, 2016). Visibility of diverse faculty is critical to diverse student success (Beard & Julion, 2016; Dapremont, 2013). If support and mentorship of diverse and disadvantaged nursing students is implemented now, it will take time to develop those nursing students into nurses, and then recruit them as faculty. Training and education geared towards current faculty, role models, and mentors is important to assist them in learning about and identifying the barriers discussed in this independent study. Training can be in the form of workshops, classes, or conferences. The goal is that faculty, role models, and mentors gain knowledge in the areas of cultural knowledge, cultural competence, academic support measurements, mentorship, and leadership (Condon et al., 2013; Loftin et al., 2013; Tab, 2016).

**Research.**

The literature review did not identify a best practice model or a gold standard of support and/or mentorship. Instead, the evidence illustrated that support and mentorship interventions varied greatly. Despite the variance, except one study, all others found that interventions increased student success (Beard & Julion, 2016; Brooks-Carthon, et al., 2014; Brooks-Carthon et al., 2015; Condon et al., 2013; Corrigan-Magaldi et al., 2014; Dewitty et al., 2016; Latham, et al., 2016; Metcalfe & Neubrander, 2016; Tab, 2016; Valentin-Welch, 2016). But there remains a lack of clarity, as to essential factors to be included in programs designed to support student
success. More research is critical to develop best practice guidelines in the support and mentorship of diverse and disadvantaged nursing students.

**Policy.**

Diverse nursing students positively affect the perceptions, attitudes, and knowledge of their nursing colleagues, which in turn affects future nursing practice (DeWitty, 2018). Scott & Zerwic (2015) described holistic review and admission of nursing students into schools of nursing as an important first step in reflecting the diversity of the general population in the diversity of nursing students. Holistic admission is a process in which schools of nursing examine their mission, goals, and the population they are serving to develop admission policies and criteria to admit nursing students that reflect those categories (DeWitty, 2018). DeWitty (2018) expressed that 72% of health profession schools utilizing holistic admissions observed an increase in diversity and no change or an increase in student success. Further research could also be implemented to see how support and mentorship affects student success in schools implementing holistic admissions.

**Summary/Conclusions**

The lack of diversity in nursing directly effects nursing practice, education, research, and policy because the lack of diversity directly affects patient safety and increases an already prominent health inequity (IOM, 2003). The goal of this independent study was to contribute to the knowledge on how to support the academic success of diverse and disadvantaged nursing students. Through a literature review, evidence showed that the initiation of support measures and mentorship increases diverse and disadvantaged nursing student retention and success (Beard & Julion, 2016; Brooks-Carthon et al., 2014; Brooks-Carthon et al., 2015; Condon et al., 2013; Corrigan-Magaldi et al., 2014; Dapremont, 2013; Dewitty et al., 2016; Latham, et al.,
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2016; Loftin et al., 2013; Tab, 2016; Valentin-Welch, 2016). However, additional research is needed to identify best practice in the support and mentorship of diverse and disadvantaged students. This independent study utilized Bandura’s (1977, 1986) SLT to examine support and mentorship of diverse and disadvantaged students.

One of the driving forces to examine support in mentorship of diverse and disadvantaged students was my experiences as a diverse nursing student. I was fortunate to be part of a support and mentorship program that empowered me to become a registered nurse. I felt so strongly in the support and mentorship program that I returned later in my nursing career to become a mentor. Within the last two years, this program has expanded their scope of support and mentorship interventions to more diverse and disadvantaged nursing students. As a student learning through this independent project process and as a mentor, I have utilized Bandura’s (1977, 1986) SLT framework to identify and advocate for student’s needs. I have also increased my mentorship of the new nurse mentors in connecting students to resources.

Within the last year, I have joined and become co-chair of the department of nursing’s holistic admissions taskforce. The major driving force for me to join and be an advocate was this independent study process. The process reaffirmed in me in the realization of how crucial increasing diversity in nursing is. However, this independent study also informed me that simply increasing numbers is not good enough. Support and mentorship interventions are critical to diverse and disadvantaged nursing student success (Beard & Julion, 2016; Brooks-Carthon et al., 2014; Brooks-Carthon et al., 2015; Condon et al., 2013; Corrigan-Magaldi et al., 2014; Dapremont, 2013; Dewitty et al., 2016; Latham, et al., 2016; Loftin et al., 2013; Tab, 2016; Valentin-Welch, 2016).
References


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<tr>
<th>Authors/ Publication Year</th>
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<th>Design</th>
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<tr>
<td>Anderson, T., &amp; Watkins, K. (2018)</td>
<td>To examine the relationship between peer mentoring and two learning theories: humanistic adult education philosophy and social constructivism theory. The purpose is also to examine the value of peer mentorship implementation.</td>
<td>Qualitative/ Descriptive</td>
<td>N/A</td>
<td>N/A</td>
<td>Peer mentorship is valuable to all but most valuable to student, whether they are mentor or mentee. However, Faculty and the educational institution also benefit.</td>
<td>Examined benefits and challenges for students, faculty, and the institution.</td>
<td>While the authors have many sources, this is not an actual study or literature search. Only examined two learning theories.</td>
<td>VI</td>
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<tr>
<td>Beard, K.V., &amp; Julion, W.A. (2016)</td>
<td>To examine if race still matters in nursing from the viewpoint of African American nursing faculty.</td>
<td>Qualitative/ Narrative</td>
<td>N=23</td>
<td>140 potential participants were emailed with a request to complete the study. 23 agreed. Interview questions were developed and administered by the authors via email.</td>
<td>Race impedes diversity of the nursing profession.</td>
<td>Narrative style allows examination of connections and concepts through the eyes of the study participants.</td>
<td>Bias could be introduced in the recruitment of participants and the interpretation of emails. Emails can be edited so the first answer may not be the final answer. Participants self-identified</td>
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<tr>
<td>Brooks-Carthon, J.M., Nguyen, T.H., Chittams, J., Park, E., &amp; Guevara, J. (2014)</td>
<td>Recognize reoccurring themes in diversity pipeline programs.</td>
<td>Descriptive/ Cross Sectional Survey</td>
<td>N=164</td>
<td>Authors created the survey. A non-related company sent it out to 424 applicable schools via email with a web link. 164 schools responded. Chi-square statistics and SAS utilized.</td>
<td>Mentorship as well as academic and psychological support were well utilized in pipeline programs. Overall, pipeline programs increased recruitment and retention of diverse students. More research is needed.</td>
<td>Survey was field tested and assessed by field experts outside of authors. Data was measured and analyzed using programs. Survey administered by outside company.</td>
<td>Small survey response. The survey looked at general trends versus specifically how mentorship compared school to school. Many outside factors could influence minority enrollment that is not considered in this study.</td>
<td>VI</td>
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<p>| Brooks-Carthon, J.M., Nguyen, T.H., Pancir, D., &amp; Chittams, J., Park, E. (2015) | To ascertain if enrollment patterns of ethnic minorities are static or dynamic in relation to diversity pipeline support services. | Descriptive/ Cross Sectional Survey | N=25 | Authors sent out an electronic survey to 164 schools. They also compounded enrollment data from the respondents | Pipeline services varied greatly as did the student groups correlated with enrollment during that | Survey data was assessed using SAS. Specific ethnic groups and services were assessed. Purpose and background information | Small survey response limited to bachelor’s nursing programs. Cross sectional survey with comparison to minority | VI |
| Condon, V.M., Morgan, C.J., Miller, E.W., Mamier, I., Zimmerman, G.J., &amp; Mazhar, W. (2013) | To examine the SLIPP pipeline program in recruitment and retention of diverse and disadvantaged nursing students. | Qualitative/Survey/Interview/“Summative Evaluation” | N=77 | Evaluation of student records, limited surveys, and phone and face to face interviews (total of nine). Diverse and disadvantaged nursing students can overcome barriers to be successful. Gathered multiple types of data (student input, NCLEX pass rates, graduation rate, etc.). A literature review with similar findings to other articles. | Only at faith based institutions. Authors did not state how the nine were chosen or how the questionnaire instrument was created. Lacked NCLEX pass rate from one student. Stated limitation in article related more to student success than the data collection. | VI |</p>
<table>
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<tr>
<th>Author</th>
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<th>Methodology</th>
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<tr>
<td>Corrigan-Magaldi, M., Colalillo, G., &amp; Molloy, J. (2014)</td>
<td>Examine the outcome of a newly implemented remediation program.</td>
<td>Descriptive</td>
<td>N=11</td>
<td>Data was collected related to students passing a course, NCLEX pass rates, and student evaluations. Mentorship, tutoring, adaptive quizzing, and other interventions were used to increase retention of at risk students. Completed a literature review and used multiple ways to gather information.</td>
<td>Very small sample size. Article did not clearly/explicitly compare pre and post outcomes with usually cohort NCLEX pass rates, graduation rate, and student satisfaction. Did not explicitly discuss student evaluations. Unable to identify what intervention(s) were most helpful. Made claim that students went on to be lifelong learners with no evidence.</td>
</tr>
<tr>
<td>Dapremont, J.A. (2013)</td>
<td>Conduct a literature review to identify and examine the success of models that aim to increase recruitment, retention, and attrition of minorities.</td>
<td>Systematic Review of studies</td>
<td>N=7</td>
<td>Systematic literature review of numerous databases which were measured Minority success and retention increased when interventions are initiated. Interventions</td>
<td>Review only peer reviewed journal articles. The author created a tool to evaluate the articles. Author describes in- Many factors in each model that could affect minority student success. Age and education</td>
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Examine the NCIN scholarship program

<p>| Dewitty, V.P., Huerta, C.G., &amp; Downing, C.A. (2016) | Examine the NCIN scholarship program | Descriptive/Survey | N=3,419 | Three surveys administered at various points in the recipient’s education. | NCIN scholarship enhanced accelerated BSN and MSN students. Mentorship was beneficial. | Hired external evaluator to assist with surveys. Large sample size. Surveys were thorough. | Each category had variances. For example, mentors could be peer, faculty, assigned advisors, etc. It would be difficult to ascertain which is the most helpful. Authors state that NCIN population is more diverse but that was the purpose and criteria of the scholarship so it would be. Could compare NCIN recipients to VI |
| Latham, C.L., Singh, H., &amp; Ringl, K.K. (2016) | Examine implementation of a structured peer mentoring program and associated outcomes for diverse students. | Descriptive/Survey | N=89 mentors and mentees over two years | Authors examined data related to ethnicity, and lifestyle, social, and academic information. Post program, they also obtained data through reflective journals, surveys, and group evaluations. | Mentoring relationship between peer mentors and students allowed barriers to be identified prior to it becoming a bigger issue. Shared governance between mentors and faculty allowed for broader identification and discussion of issues. | Program was voluntary and student chose mentors. Utilized SPSS to examine data with Mann-Whitney U test due to low sample levels. Worked with an outside team to evaluate issues and outcomes. Already established tools utilized to survey students ethnicity, lifestyle, social, and academic information. Survey data and journal data supported each other. | A lot of data was collected. While the focus of the article seems to be examining mentees, it reads like it is focused more on the mentor’s experiences. To me the title makes sense now, but the introduction was confusing and I feel it did not clearly state this point. If the students |
| Loftin, C., Newman, S.D., Gilden, G., Bond, M.L., &amp; Dumas, B.P. (2013) | Examine the literature and synthesize the findings of recruitment, retention, and Systematic review of qualitative and descriptive studies | Systematic review of qualitative and descriptive studies | N=11 articles | Collected articles throughout CINAHL, ERIC, EBSCO, and Pubmed. | The literature is weak and there are many gaps available for future researchers. Authors identified and discussed each of the 11 articles. Searched many databases and Very limited articles that fit search parameters. | V |</p>
<table>
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<tr>
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<th>Sample Size</th>
<th>Study Methodology</th>
<th>Findings</th>
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<tr>
<td>Metcalfe, S.E., &amp; Neubrander, J. (2016)</td>
<td>To examine and describe the NN-CAT pipeline program which was implemented to increase student diversity for ASN to BSN or just BSN students.</td>
<td>Descriptive</td>
<td>N=22</td>
<td>N/A: did not survey students but did discuss why some students left nursing school and discussed specific ethnicities of the students in the program.</td>
<td>Author’s findings were similar to what they found in the literature. Diverse students have unique barriers such as family, financial, and academic. Integrated rural students as diverse students and supplied references for that.</td>
<td>Did not discuss if mentors were culturally diverse or competent, just that they received training. Did not have data related to final graduation and NLCEX pass rates.</td>
</tr>
<tr>
<td>Tab, M. (2016)</td>
<td>To examine and describe the RUN 2 Nursing program and outcomes.</td>
<td>Descriptive/Survey</td>
<td>N=62 diverse students, N=22 faculty</td>
<td>The researcher created an 18 item survey/evaluation to be used between the faculty advisor and student mentee at the end of each</td>
<td>Many factors assisted in increasing NCLEX, graduation, and retention rates such as mentoring, tutoring, and a non-</td>
<td>Clearly stated program goals and interventions. Not measurable, but stated though funding was cut, interventions</td>
</tr>
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</table>
semester. The student filled out evaluations about peer tutors effectiveness. NCLEX, graduation, and retention rates were also assessed. were staying due to outcomes and commitment to increasing diversity. 

| Valentin-Welch, M. (2016) | Examine the MOCC mentoring program and outcomes. | Descriptive/Survey | N=109 total participants in the program over time
N=16 mentee survey responders (from 42)
N=22 mentor responders (from 44) | Online survey sent out with question scale and open ended questions. Only sent to 42 mentees and 44 mentors. | Survey was mostly positive with some mixed reviews. | Clearly stated that no incentives or advertisements were provided for survey. Utilized SPSS for statistical analysis. Did use already utilized online survey tool. Utilized a range of literature. | Had open ended responses in which were only examined by researcher which could introduce bias. Does not clearly explain how initial sample population was chosen. Overall response was low. Did not state if outside source sent survey and analyzed survey or if author did. Mentorship structure was |
left up to mentor and mentee and this a large variance could occur. Purpose states that article is to examine outcome but only examined program satisfaction.

Appendix B

Support and Mentorship of Diverse and Disadvantaged Nursing Students
Elle Hoselton, RN, Masters of Science in Nursing Graduate Student
College of Nursing & Professional Disciples
University of North Dakota
Grand Forks, ND
Advisor: Dr. Linda Shanta, PhD, RN, ANEF

Introduction
- 1,000,000+ additional nurses are needed to support the nursing workforce
- Patient safety decreased by:
  - Critical lack of diverse nurses & nursing students
  - Lack of cultural competent care
- Diverse nursing students:
  - Bring vital experiences & beliefs
  - Have unique educational barriers
  - Social isolation
  - Lack of diverse faculty role models
  - Lack of faculty support

Purpose
- To determine the evidence of current literature in the effectiveness of support & mentorship of diverse and disadvantaged nursing students

Methodology
- Cochrane, CINAHL, PubMed, & Grey literature were examined
- Search terms: mentor, diverse student, disadvantaged student, & at risk student
- Inclusion criteria:
  - Published in the last five years
  - Written in English
  - Occurred in the United States
  - Nursing students in the academic setting
  - Support & or mentorship component
- Total studies retained: 13

Social Learning Theory Framework (Bandura, 1977, 1986)

Levels of Evidence
- 10 of 13 studies were qualitative research
- 1 study was application of two theories to support and mentorship
- 2 studies were systematic reviews of qualitative & descriptive studies
(Fineout-Overholt, Melnyk, Stillwell, & Williamson, 2010; Kaplan (n.d.); Melnyk & Fineout-Overholt; 2015)

Significant Findings
- Support interventions increased diverse student recruitment & retention:
  - Modeling
  - Mentorship
  - Tutoring
  - Counseling
  - Psychosocial supports
  - Scholarships
  - Modeling & mentorship increased diverse & disadvantaged student recruitment and retention
  - Positive mentorship relationships:
    - Peer
    - Faculty
    - Life coach
    - Community

Recommendations
- This work is an important first step
- More research is needed
- Topics of study for future research:
  - Best practice support interventions
  - Best practice mentorship
  - Population specific research

References
- Available upon request:
  - elle.hoselton@und.edu